2832

Attorney Docket No. 804-O P 710 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re U.S. Patent Application of: Honorio S. LUCIANO	)
	) Examiner: Karl D. Easthom
Application No.: 09/361,849	)
Confirmation No.: 6048	)
Filed: July 27, 1999	) Art Unit: 2832
For: Surface Mount Electrical Device with Multiple PTC Elements	)

TRANSMITTAL

Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Transmitted herewith is a copy of the executed Declaration of Honorio S. Luciano Pursuant to 37 C.F.R. § 1.131. A copy of the Declaration, unsigned, was previously filed with Applicant's Request for Continued Examination on July 23, 2003.

The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment to Deposit Account No. 23-0280.

Respectfully submitted,

Date: August 13, 2003 By: Jeffrey R. Gargano

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Chicago, Illinois 60606-6630
312.554.3300

CERTIFICATE OF MAILING (37 C.F.R. § 1.8a)
I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on August 13, 2003.

Linda K. Johnson

Linda K. Johnson/180838.1

Attorney Docket No: 804-O P 710 PATENT
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In Re Patent Application Of:

Honorio S. LUCIANO

APPLICATION NO.: 09/361,849
CONFIRMATION NO.: 6048
FILED: July 27, 1999

FOR: Surface Mount Electrical Device with Multiple PTC Elements

Examiner: Karl D. Easthom

Group Art Unit: 2832

MAIL STOP RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF HONORIO S. LUCIANO PURSUANT TO 37 C.F.R. § 1.131

I, Honorio S. Luciano, the Applicant in the above-identified U.S. Patent Application, hereby declares as follows:

1. I am the named inventor in the above-captioned application.

2. Sometime prior to July 9, 1998, while employed by Littelfuse, Inc., I conceived the original idea of a surface-mountable electrical circuit protection device comprising:

(i) a first polymeric PTC element having first and second surfaces, a first electrode attached to the first surface;

(ii) a second polymeric PTC element having first and second surfaces, a second electrode attached to the second surface;

(iii) a third electrode positioned between the first and second polymeric PTC elements, the third electrode connected to the second surface of the first polymeric PTC element and the first surface of the second polymeric PTC element;

(iv) the first polymeric PTC element being in direct contact with the second polymeric PTC element;

(v) a first electrically conductive end termination wrapping around a first end of the device and electrically contacting the first and second electrodes;

(vi) a second electrically conductive end termination wrapping around a second end of the device and electrically contacting the third electrode; and

(vii) wherein an electrically insulating layer is deposited on the first and second electrodes between the first and second end termination.

3. I have reviewed pending claims 1-5, 7-9, 11, 23 and 24 of application Serial No. 09/361849. The original idea which I conceived prior to July 9, 1998 includes the subject matter of at least currently pending claims 1-5, 7-9, 11, 23 and 24.

4. Attached hereto as **Exhibit A** is documentation dated prior to July 9, 1998 which shows the ideas referenced in Paragraph 2 above. The Applicant respectfully notes that these documents are not presently being relied upon for establishing the earliest date of conception and/or reduction to practice of the invention, but are being used to establish that the Applicant's date of conception and/or reduction to practice was prior to July 9, 1998.

5. From a time prior to July 9, 1998, and continuing until after July 28, 1998, I diligently and continuously reduced the invention to practice by:

(a) preparing the drawings, notes and description in **Exhibit A** prior to July 9, 1998;

(b) actually reducing the idea to practice prior to July 9, 1998;

(c) filling out and submitting an invention disclosure form to the appropriate Littelfuse corporate personnel;

(d) meeting with Littelfuse's patent counsel to review and discuss my disclosure;

(e) reviewing at least one draft of a patent application covering the claimed invention; and

(f) filing the parent U.S. provisional application (Serial No. 60/094,434) on July 28, 1998.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the Application or any patent issued thereon.

Date: August 8, 2003

By: Honorio S. Luciano

Honorio S. Luciano

REDACTED

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Littelfuse®

INVENTION DISCLOSURE FORM

REDACTED

The purpose of this form is to obtain the information needed to evaluate the patentability of your invention, and to enable a patent search and a patent application to be considered or pursued. If a patent application is filed, this information is also needed to satisfy your duty of disclosure to the United States Patent and Trademark Office. If you need more space for an answer, you may attach other sheets

Title of Invention: Multi Layer PTC Element

Name of Inventor (s) Nori Luciano

A. Feature of Invention: Describe your invention giving all novel features and advantage of each. If necessary, attach a drawing (s) and reference the novel features.

Multi Layer PTC element devices will give high current ratings for the same foot print. See attached steps for the process of making a multi layer device. This process allows for surface mount devices to be made with current flow through most of the length of the PTC elements which will give better performance

B. Dates:

First Conception REDACTED (Attach dated sketch or memo.)

First Reduced to Practice

First LF Disclosure REDACTED to whom William Travis

First Disclosure Outside LF. Date

Whom

Need for Outside Disclosure:

REDACTED

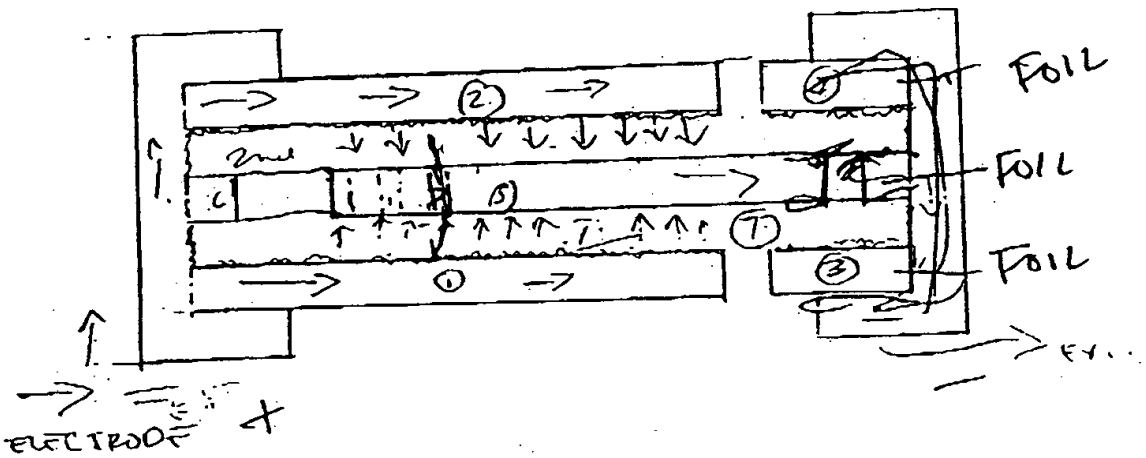
EXHIBIT

A

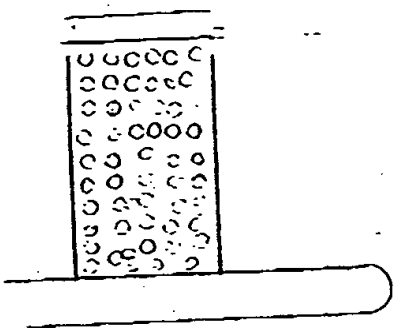
REDACTED

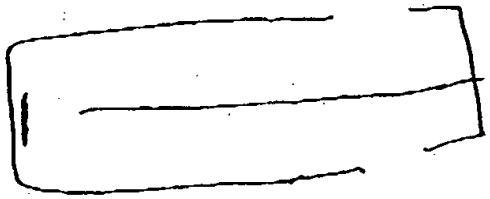
Project No. ____
Book No. ____ TITLE ____

No. REDACTED



FIRST ELECTRODE
2nd ELECTRODE
3RD ELECTRODE
4TH ELECTRODE
5th ELECTRODE
6th ELECTRODE
1ST [illegible] ELEMENT
[illegible] element





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sed & Understood by me.	Date REDACTED	Invented by NOE LUCIANO	Date REDACTED
		Recorded by REDACTED	

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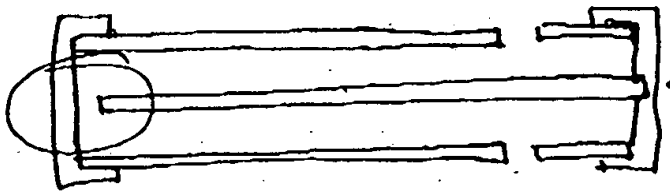
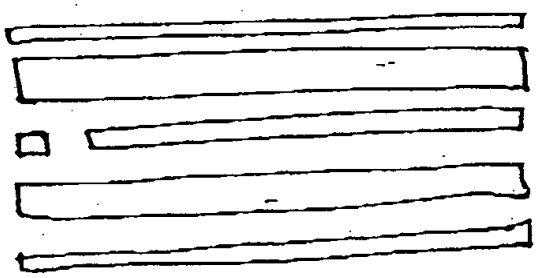
Project No: _____
Book No. _____ TITLE MULTILAYER PTC

STEP 1. ETCH THE MIDDLE ELECTRODE (OR THE FOIL)

As seen from the DRAWING Below, This will seperate the middle From the Top and Bottom electrode-



STEP 2. Laminate all the metal electrode to the Polymer Bar Following the Illustration Below.



STEP 3. Create an opening on Both ends To allow the plating to wrap around the edges. (and at the same time connecting the

STEP 4. ELECTROLESS Plate the Surfaces and Edge to Continue To Create a Conductive Surface

STEP 5. Full panel - ELECTROLYTIC PLATE .001 mil Copper over the entire device-

sed & Understood by me,	Date	Invented by NOLI WUDND	Date
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E P multi layer PCB. Project No. Book No.

n Page No.

6.] Apply Photo imaging film and expose the gate on the Top and bottom opposite electrode

7.] etch the (gate) metal from the to gate areas.

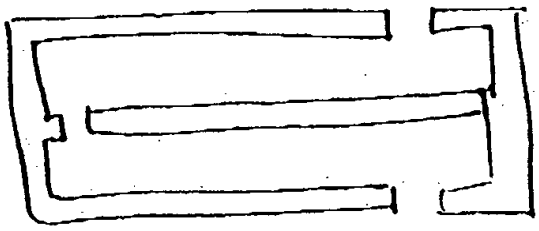
8.] apply dielectric material to ~~expose~~ protect ~~the~~ the Electrode and the Polymer from the moisture — and deposition of the termination —

9.] Image and develop the termination areas

10.] Do ELECTROLytic Plate over the termination — copper and Tin lead —

11.] Separate the Parts By Sawing, Dicing

12.) Final Device —



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Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by REDACTED	

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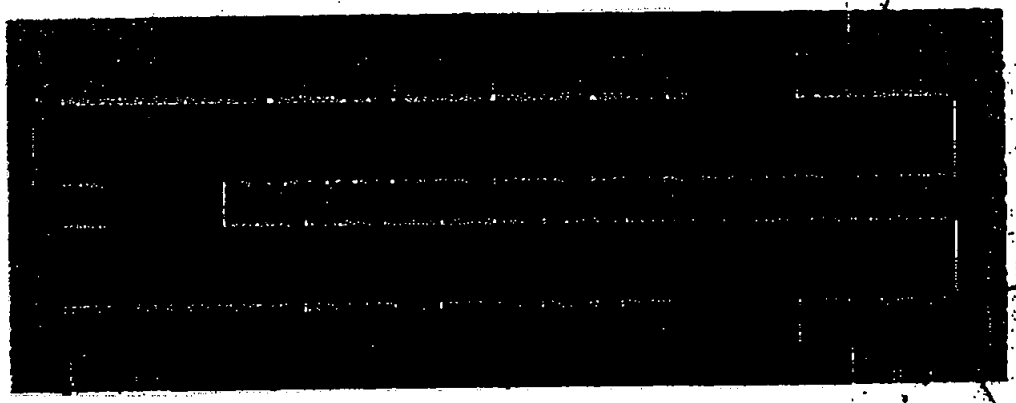

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